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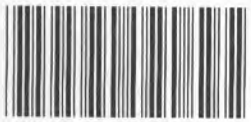

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2015 Greenland Season

3 May - Start of Field Season

4 May - Arrived Kangerlussuaq

5 May - Swiss Camp Put-in, 2nd put-in

6 May - JAR 1, DN 10 download

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9 May - Swiss Camp AWS, 10 m tower download

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13 May down 10, JAR 1 GPS

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14 May JAR 1 GPS start-up

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16 May SC pull-out

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18. May AWS preparation for service

19 May Going north to Upernavik

19 May NASA-U, NEEM

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21 May NEEM - GITS - Thule - north

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23 May Solar tracker

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25 May Summit - CP1, Dye-2, Saddle, NASA SE

26 May S-Dome, Dye-2

27 May Shipment to Switzerland

29 May EGRIP location, ERROR!

28 May Hiscores #37

30 May Klim_11 Fortran code Swiss tower

1 June Flight to Thessaloniki - Climat days

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13 Oct Bhutan AWS Paro + Haa

11. Jan 2016 Preparing AWS 2016 work

Radar at Swiss Camp 4.5.15

Power requirements

0,2 Ah 1 measurements of both radars

~ 384 measur. to 100 Ah batteries

We will take 6 x 100 Ah batteries to Swiss Camp and make a large battery bank in the Garage of Swiss Camp.

→ Point to get the solar panels from the red container => call Lino!

Bring the whole alu box to Swiss Camp.

Swiss Camp 5/5/15

Second plane arrived with Gino + Derek and cargo.
Put all shelters out and to work.
The garage was filled with snow.
Put all tents up (6) and had soup at 8pm.

Download AWS and 10 m towers.
According to last years snow (~ 100 cm) there was 50 cm!! ice melt in Summer 2014 (10 m tower data)

JAR 1, Down 10 6.5.15

JAR1 69° 29° 38" N
49° 42' 35" W 857m

DN10 69° 30' 07 N
49° 33' 26' W 1093m

Went to JAR 1, still upright but stopped recording in August 2014 because the paravane cable was pulled out (to end result ~ 4 m surface lowering!!).

Also down to 1093 ~ 4-5 m above surface and we used a ladder to reach.

We are planning to redeploy JAR1 and do to tomorrow

Begas set up 6/I/15

abcd - efgh - 123 (Wpa 128 bit pw)

Terminal 92x / Hughes 9250 /04

Huiman, Christian SLF heiman@SLF.ch

and it worked in the morning of 7/I.

Got 140 email down.

JAR 1 7/5/15

Redrilled JAR 1 and Schwabi snowpit with 95 cm snow.

Drilled two extensions, where a the 2nd extension is at the snow surface (50 cm above the ice) 440 cm into the ice, which is good for one season (?)

All sensors are working, but humidity looks low. The power was pulled from the CR1000 in late Fall 2014 (

Swiss Camp 8/5/15

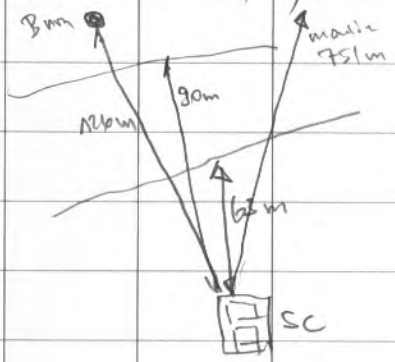
Overcast with some blowing snow

We will set up snow radar today.

Need to call Jay about continuous GPS monitoring which will drain all batteries at day 19, up 50, up 16, Last Swiss camp might be the.

SC High Res Sat image for 2014

SC 69° 33' 25.34" N 49° 21' 13.95" W



9/5/15 JAR1 recording 2014

Power pulled out 2014-08-07!

until then there was 2.7m melt!

all working again - what about the humidity?

Swiss Camp AWS +10m 9/5/15

Snow height 0.4 to 2.0 = 1.6m

surface lowering and 1.0 m new snow in winter 2014/15,

There were about 1.0 m snow in spring 2014 = 0.6 m ice melt!

Max wind of 35 m/s = 105 km/h!
in late fall 2014

Battery did not go below 12.3V

10m tower + all sensors working!

Swiss Camp 10m tower

Transmitted ID = 8030A1E0 00:47:45

Elevation 207/14

GOES processing:

download all GOES files

copy *.* goes\dr_raw.dat

run goes ...

run sort ...

The tower was transmitting at the 207/15 time, but the processing programs have some errors, in particular the sort program needs to be fixed.

Swiss Camp (Sunday) 10.5.15

Stopped Snowing, had a long breakfast with discussions.

Snow radar programming for de loop to filter 12 Volt every 30 min for 15 min. This task took me quite some time because I did not realize that the old AMP45 was also triggered by a current, and the lines were cancelling out other when I made a new Slow scan loop.

Finally got it to work, but not the RS232 communication which was only to read the status of the radar

Swix Campbell radar on CR1000

Radar connection on CR1000 at 10 m tower:

Switch 12 Volt: brown
Ground 12 Volt: green
C2 (RX) : white

Program: 10m tower_radar.

Winter programming

1 Std. 8 x 30 = 240 SP
3 Std. = 90 SP
IF Time(9), gt, 240
.or. It, 90 =>
every 4 hours
=> stopped GOES transmission

Radar signal values 12.5.15

Radar connected today

I can read 4 bits of data in a string, and need to transform 1 byte from 0 to F

X1, F0, 07, AE

String to hex function

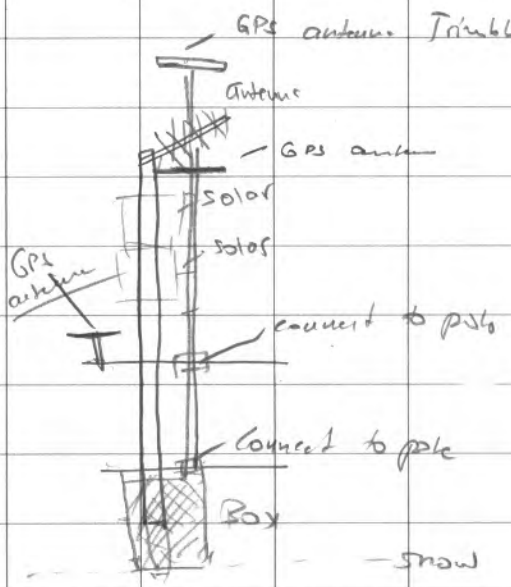
Example 12 05 FD 1D (String)

X
5 18 52 81 170

Completed the radar set-up and connected radar to CR1000 on 10 m tower.

Prior to upload new program, download the AWS data.

GPS Site 1 13.5.15



Take CR1000 charms ✓, electric saw ✓
drill and bolts + 2 clamps
antenna + cable, loader, tool box ✓
also small to loan connector for pole
- electric re-wiring, straps, zip-ties

Snow Survey SC 2015

2014 AWS 100.7 cm snow

2014 10 m 120 ~~116~~ cm snow

Box @ 64 - 184 ~~180~~ Box to ice

AWS 120 Snow 100.7 cm (2014) + Box 60 = 180 ~~160.7~~

2015 (240 cm to ice)

AWS ⇒ 60 cm ice melt

10 m tower: 240 - 184 = 64 cm ice melt

⇒ 60 - 64 cm ice melt since 2014

Snow Survey Swiss Camp 13.5

10 m tower

115, 118, 115, 113 cm snow = 115 cm

92.5 cm snow SF to Box + S = 207.5

165 cm to lower arm + S = 280.0

67 cm to lower radar arm

41 cm from radar box to SF

radar pole 112 cm, with 110 cm snow

= 222 cm above the ice

AWS

120, 125, 124, 128 cm snow = 125 cm

115 to Box, 110 to arm 240 cm ~~235 cm~~ to ice

Snow 2015 195 - 125 cm

Snow 2014 120 cm

18.5.2015 AWS Stations

Northern Traverse:

NASA U (03) no extension R=206
transmitting 2015, DD 102 / power was 13.5V
Pressure questionable

NEEM (23) no R=204
no transmission from DD 101 - 120 ?
now some lines missing but x-mit
pressure questionable
battery ok
lower boom 0.7 m above snow
→ maybe extension

EGRIP needs radiation instruments
and radiation arm!
V1 not working! dir2 correct! ~250 deg
Snow1 only 56 cm above snow.
one wind dir opposite!!

GITS no extension
~~wind~~ dir ~~speed 1~~ out / power 12.6V
TCair 1,2 out

Petermann no extension
~~Large diff. T_TC and T_air~~ TCair out (1,2)
~~wind dir 1 strange - sometimes negative~~
power 12.7V

Humboldt needs extension
power 12.0V, all ok

Tunu-N maybe extension
wind dir 2 out > 300°, Snow 2 noisy
power 12.3V

→ Summit

18.5.18 Nathan Travers AWI

found no extended

~~V1 not turning~~, Pressure?

~~Snow 2 out~~ 12.3V

~~V1 out~~

~~Temp 3, 4 out~~ 10 V

battery Stays → Solar panel not attached?

NASA-E needs extended

no transmission

Kanger going north 19 May

In the morning they got Sabre Daas from the ice and we got again delayed. = Picked the plane at 2:30, Pilots left at 3:30 to the hotel to get that stuff and food, and we still plan to leave to dry towards NEEM.

CP1 might no longer be an option this top, NASA-U hopefully has good weather (?).

Left Kanger at 16:00 towards Upernavik, clouds over the ice sheet, but clear over the ocean.

19.5 Mpernarwz – NASA-4

Landed at 6:45 pm to refuel.
Blue sky but only a few km
before 6am it was overcast.
Leaving at 7:30pm to NASA-4
and we hope it is good weather.

Called JP and got connected. They
are expecting us tonight. He gave
me the # 37 835, but what is this?
Probably radio frequency?

NASA-4 (8:40pm) 19.5.15

Coordinates: 73°50'26.5"N
49°31'19.8"W 2420m

Ca 10m south of station
downloaded data, recovered pressure
which was out, and looked
the power cable which were under
pressure.

Density probe by H.S. and H.P.
with tiltsensor and balance.

Ca 30 cm accumulation.
Now we try to fly directly to
the NEEM traverse team for fuel
and overnight.

They run out of duty hours and have
to go the the traverse site

19.5/2015 Traverse C.

(1) Wed: • NEEM
20/5

HUM 181

PET 180

NEEM 360

Traverse C. ✓

(3)
Sat
~~Thur.~~
(23/5)

~~Traverse C, Daneborg~~ NEEM T

~~Tunu-N~~ Nasa E

~~NASA E~~ EGRB

Traverse C. Summit

(2)
Thurs.
21/5
22/5

Traverse C.

NEEM

GITS

Tunu-N

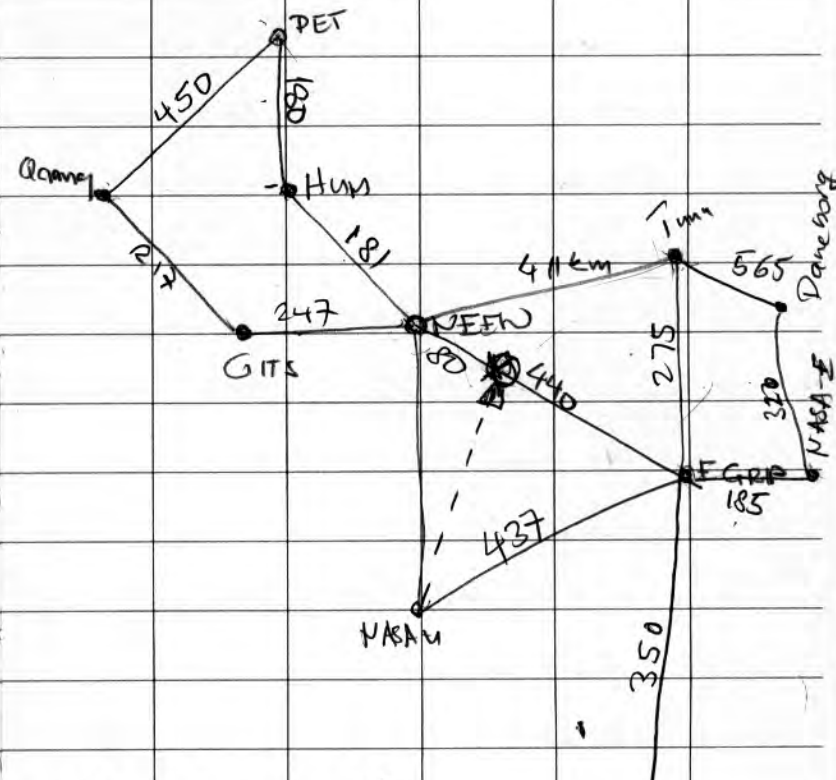
~~Qaanaaq~~ (2 nights)?

~~Daneborg~~ NEEM-T

Sun: Trav. - Summit
24/5

Flight Plans out of NEEM Traverse Camp

19.5.15



NEEM 8 drums total

NEEM - Tunu - Daneborg 976 km

Daneborg - Nasa-E, EGRP Summit 855 km

19/20 May — NEEM Traverse Camp

Arrived at 11 pm a camp and got nice dinner from Bertha and JP. Slept in the blue dome until 6:30 and then activity started again.

20. May — Traverse team left @ 10 cm
We had to wait until 12:00 because of daylight for pilots!!
Martin and Co. did an extensive snow study on site,

77° 07' 05.4" W
48° 10' 34.4" W 2708 m

NEEM — 20.5.16

77° 26' 31.4" N 2461 m. a.s.l.
51° 04' 55.8" W
download ok, all worked well.
AWS has only one solar panel and JP Steffenson removed snow from the panel in early season – that might be the reason it did not transmit.

Will survive one more year, but then we have to extend.

left elke failing 3 drums (8 total at NEEM) at 2:15 pm.

20.5 Humboldt 15:00

Coordinates: 78° 31' 40.2" N 213m
56° 50' 29.1" W

Extended tower, all channels working
Last time was off!
18/2/2015 instead of 20/5/2015
=> 3 month and 2 days off!
Also true when I was downloading
the data. The memory chip did
not work at all. Had to delete it
and insert a new one. download
with cable.
Power cable extended for at last
one more extension.
Perfect weather, no wind
and snow studies M.S.
Power below 9V per pack
Jan.

Petermann ELA 20. May 15

Coordinates: 80° 35' 44.9" N
58° 07' 56.4" W 924 m

Downloaded data and it seems that not
all data was on the memory chip
From 2014-01-20 to 2015-03-19
But the display showed the total time/date

Downloaded the data with TeraTerm
and all data came down in clusters 5/20/2015

Both Tcair were not working?

Battery drained in mid winter and
went below 10V ~ 5 Jan for two months!

21.5. NEEM Tower Camp

Another beautiful morning.
We would like to visit GITS and Tunu-N today, but Quadney is down due to clouds.
We should fly GITS - Tunu-N with refueling at NEEM (5 drums) and then fly to Dome Log (50 m drill) for core export, and return for NASA-E, NGRIP - Summit if there weather is in our flight.

GITS 21.5

Coordinates: 77° 08' 13.6" N
61° 02' 31.6" W 1881

Download of all data worked well.
Had to extend power cable because too much snow compaction.
The power cable was pulled from the multiplexer, therefore no Tc air measurements lately, now working again.

Micropen measurements and snow density by H.S.

Battery went below 10V in spring and no measurements for a while.

21 May THANK-N

Coordinates 78° 01' 06.5"N 2067
33° 58' 10.3"W

Raised the arm by about 1m, including the solar panels, antenna, radiation.

All channels are working and download worked well.

Snow misreport and pin by H.S

Still the wind direction is zero, but I did not see a loose wire.

NEEM Traverse Camp 22 May

Final night at the amazing hotel.

It was great to use this camp as another traverse for refueling, driving, and sleeping. The spotlight was great, even though we used a lot of fuel 4+6+4 drums over 8 drums at NEEM ~22 drums total.

Today we will go to EGRIP, NASA-E, and then Summit where we will stay 1-2 days to fix solar trackers, install snow radar, and service the FWIS.

Still need to call Summit, will get phone # from Dorthe.

We should approach EGRIP from SE direction, and leave the same way.

22.5.15 EGRIP

37' dish in 2014

Coordinates: 75° 35' 86.3"N 2686 m
35° 59' 19.7"W

EGRIP azimuth for antennas ~ 219

Vspeed 1 is 2m00 (upper)

Vdir 2 is offset (recovered) (lower)

should we add radiation instruments?

* check!

dir 2 ✓ 90 ✓ correcket direction

dir 1 ~~2 6r~~ needs correction

One wind propeller (V1) was unissing!

75.59 N · 36

29° decl.

Antenna should be ✓ 219°

reset antenna to 210°

was 230°

NASA-E 22.5.15

Coordinates: 75° N,

GOES 8030E2EA 226/7 20/8:10

Is there a GOES transmitter? did

Extended the tower and reset the transmitter

which was not working.

All channels except upper wind was working

all the time.

Rearranged the data logger box but did

not exchange the wind. The cables looked

ok.

Tower good for 3-4 years and power

cable enough length for next extension.

To snow cable was still ok for this

extension.

22/5 Summit AWS

Arrived at 5pm in ice fog, but the long runway helps to land.

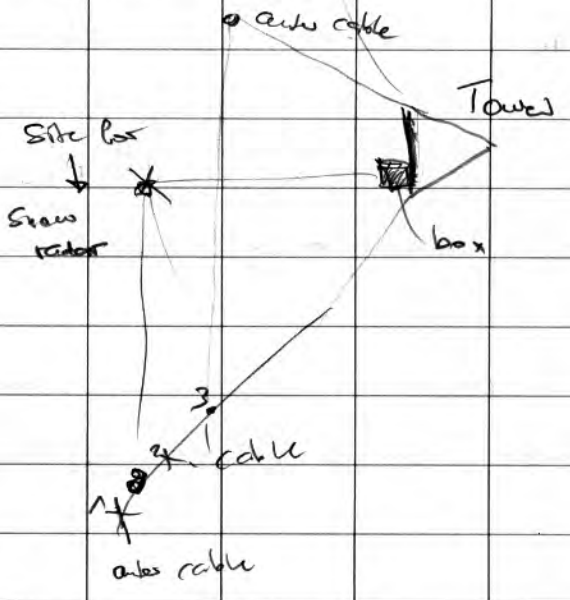
We plan to stay for 2 days and leave Monday morning to CP1, Kangerl.

Down Dade Summit AWS shut off working (pressure is uncertain). I had removed a solar panel last year for EGRIP and therefore the CR1000 battery had no recharge. The remaining solar panel runs on the X-mid, too low combined the two battery boxes => need 1 new 20W solar panel for Summit and for EGRIP

Thermistor cable

23/5

from 2009 photo



25/5 Leaving Summit - CP1

leaving summit at 8:30 local with low clouds around camp. Fly to CP1 to download and reactivate the Sat transmitter.

Azimuth of Antenna = 210 / 13 elevation ✓

Upload Sat program again ✓

Coordinates: 69° 52' 28,5" N ✓
47 01' 21" W

(old 2014 69° 52' 30.2" N, 47° 01' 09.8" W
re-aligned antenna was 200 to 60
the right re-initialized Sat transmitter
- download ok, all channels

CP1 25/5

Battery stopped 2014.8, power went down and recording stopped mid-Jan 2015.

What happened with the battery?

Oct 21 stopped - 6 Feb start again

Battery dropped within two days.

=> need new battery pack!

Did not get a GPS fix while waiting at CP1 - Satellite fix was also slow for Compass! Hope this did the job to reset the Sat. transmitter.

25/5/11 Southern Traverse

Dgc-II (08) plenty high (single bolts)
Hum (2) ant
Snow (1) noisy or ant

Saddle (10) plenty high (2 bolts)
Tair (1) ant
V (1) ant

NASA-SE (15) plenty high (2 bolts)
Tair (1,2) to warm => ant
=> multiplexer ant? Yes readouts
is also too low

S-Dome (11) extension needed
needs new battery box? ✓
all sensors seem to work

NASA-SE 25/5

Coordinates: 66° 28' 41.7" N 2388
42° 25' 46.1" W

Download dc, Tair too warm
as reference Temp seems too warm.
Air temp was only -4°C, Ref was +5°C!

Snow probe with very hard layer at -30cm
which was probably the summer horizon

-> Possibly extension next year, 3 bolts
4 poles ca 100 cm above snow

CIRES snow compaction station, ~1
50m to the side

25/5 Saddle

Coordinates: 65° 59' 58.6" N
44° 30' 06.1" W 2435

Very strange! no data on memory card
→ card reader did not work!
Replaced - card reader ok now
But - only a few days of data
on CR1000 but recording worked
and transmission → had some data
from satellite.
Why was that?
Reloaded CR1000 program!
Data should be on CR1000,
I have downloaded only the
newest data instead of all data.
There is also a snow camera
station (Wieland's group)

Kanger Wind Turbine 26/5

Hey how can I how to check the wind turbine?

Anschlusskasten 6 Schrauben (take picture)
3 sind miteinander verbunden

Der Widerstand sollte für alle 3 Felder
3.5 Ω sein.
→ Ich habe den Gleichrichter (Flach/Kasten)
im Instrument oder an der Turbine
mit Kanger → sollte der noch 2H bringen
Kann man den checken?

26.5

South Dome

Coordinates: 63° 08 56.6" N
2910.1m 44° 49° 00.9" W

Declination from True North: 25° W

Antenna Azimuths 218 / 18 ✓

63° 08' N, 44° 49' W 2900m

Extended in 2013, new battery box 2011

check battery power (seems ok from transmissions). Only 4 years old probably does not need a new box. Battery looks ok 2011 - 2014

Snow acc (2005-11) ~ 1.5 m/y

Extended (drilled new hole with 2 extenders) now one full extension above the snow. Extended power cable very long!

Have snow measurements by the SUE pros

Reset transmitter and set clocks to UTC on Data Logger

Dye-II

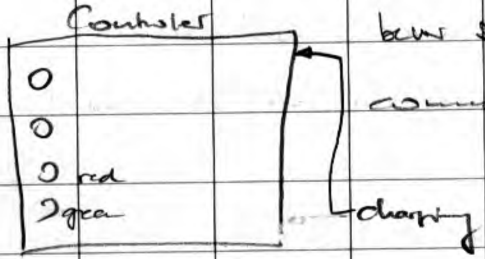
26.5

Coordinates: 66° 28' 53.6" N
46° 17' 22.8" W 2080m

PH(2) needs replacement but I did not - all channels are working, remove some ice in the box (1cm from melting) still good for 2 more years.

END OF A VERY GOOD FIELD SEASON

29/5 <u>Microspec #37</u>



before switching on, connect the cable

for 50 - 100 measurements

has internal battery, when low it will stopp! Additional batteries connect to the charger plug

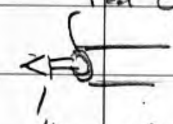
For charging batteries, need double female connector. ; Two spare batteries

29.5/15

Start the controller (green switch ; ?) because it blocks the rod. Before we removed the screw with black head.

Hit green button left down → proceed.

red O-ring needs to be in the groove
└ prevents that the water enters the tube



Head which can be screwed in or out.

To leave the DRIVE menu, push the red button.

<u>Settings</u>: The config data is on the memory card. + 2000 × 2m measurements

Make test measurements and tapped the head with finger a few times (from the front only), then stop & press red button. Check the screen for drift of 0-line.
-> to leave this screen, press red again.

20k CHF for WSL

40k for external

Things to do

- Wiederwahl 1.7.2016 email an Fritz mit guten Argumenten

- Toughbook CF - AX3

90 GB + windows + 40 = 130 GB

Ed! graph, programs + Pandora,

Thursday, Forum 1 20 min
16:30 - 16:50 Greenland ice sheet changes in a warming climate

Thursday Session 5 15 min
15:45 - 16:00 Climatology at Swiss Camp 1991 - 2015

30.5 Klim_15

New Fortran program to read the new 10 m firn Tono data now from CR1000.

22 character including first comma

x dat (22 characters)
Count (integer)
duizend (integer)
year (i)
Jd (i)
h

	-10.58	12
t_a_m.dat	-12,3	2013
	-12.0	
10.5 - 13.2		

Greenland

1.2 % of Earth Surface
7.36 m SLE
2.854 km^3

2.850'000 km^3 / 365 km^3
= 7808 times

Summit 06

SC: winter: -23 to -18.5 4.5
23 years 0.2/y
= 2/decade

Summer
-2 to +1 = 3° 0.13/a
Jan -16 to -14.22 0.08
Jul -12.3 to -11.5 = 0.03

11.1.16 AWS visit 2016

Swiss Camp (01) x-mit, working
1.11.16 no extension ✓

Crawford Point (02) no xmit
snow height 1,5m
need raw battery box, battery stopped below
needs extension

NASA-U (03) no home page transmitted
but xmit ok ✓
extention needed

GITS (04)
needs extention
xmit works!, needs new snow height sensor

Humboldt (05)
no extension needed
stopped xmit 22 340 (Dec 16)
battery was 9.0V, needs battery box

Summit (06)
xmit ok
Pressure not working, needs 2nd solar panel
needs extension

TUNU N (07)
no extension needed
all working → no need to visit

Dye-II (08)
xmit ok, pressure not working
no extension needed

11.1.2016 Aus Visit 2016

JAR1 (09) xmit ok
recabling needed

Sodolo (10) no homepage transit
transmit ok but data is off?
no picture?
no extension needed

South Dome (11)
xmit stopped but no data
logging -> TM is -6999
bat pow was 13.5V at 10 28!
no extension needed
new power box?

NASA E (12) no xmit from homepage
no extension needed

NASA SE (15) no xmit
worked to end of year, V = 12.6
and is jaw. briefly
needs 2nd Solar panel
needs extension (can be borrowed)

Peterman (21)
Maybe recabling w/o the ice
Stopped xmit 30NOV, => power was 5.5V
=> needs new Battery box

NEEM (23) xmit ok
needs extension

11.1.2016 AWS visit 2016

EGRIP (24)

needs extension

Antarctica 2015 all transmitted data passed

PE_blue xmitting!

PE-gun xmitting!

PE_air xmitting!

Total meteoric 2016 12.1.2016

Extensions (8)

CP, NASA-U, GITS, Summit, JAR1

NASX-SE, NEEM, EGRIP (8 total)

(Petermann - thin extension)

Battery boxes (4)

CP1, Hum, South Dome (?), Petermann

Extensions 8 total (7 thick, 1 thin)

Southern Traverse (1)

NASA-SE

Northern Traverse (4) +(1)

NASA-U, GITS, NEEM, EGRIP, Petermann

Other Summit, JAR1 (2)

ACEPROJECT@EPFL.CH

Length 24 cm = 180 km

0.7.5 km

ORDER From Boulder

Extension space : 2015 Dec

Swiss Camp 2 + 2 sleeves for

(Jak, CP1 / by 2016

need 6 new extensions } ORDER 2016

need 3 new sleeves

Battery box buyer (need 4)

3 boxes with batteries } need empty box

2 batteries ORDER 2016

May 2016 expedition

6 new extensions
3 new sleeves
1 empty battery box

For NEGeo

1 complete AWS with sensors + towers

+ batteries + box

31.1.2016 ORDER AWS spare parts

✓ 3 CR1000 data loggers

✓ 3 CR1000 Card readers

✓ 4 Li-ion radiosondes / transmitters ?

? 4 new T/H sensors *

✓ 4 new wind sensors

? net radiometer *

? pressure sensor

✓ 6 TC temperature sensors

✓ 2 IRIDIUM transmitter

✓ 2 IRIDIUM antenna

✓ 1 Large AWS box

✓ 2 temp.-hum solar shields (1 one)

✓ 2 new Snow height sensors + mounts

* dark lab

What is needed for Swiss Camp for 2016

1 Pansin sledge

1 2kw generator

1 drum 4 or C (no propane)

kitchen new towels, kitchen rags, plastic bags
wine glasses

C130 going north

19, 25 April

CBO going Summit 3 June cp

4, or 8, 9 June back

27/5 Storage in Red Container

Tripod with all extensions + 8 ft + long screws to attach sleeves + density kit + balance

3 AWS Sleeves

2 Met Extensions + 1 Sleeve

4 GOES antennas

1 Wind generator

3 Battery boxes with 2x 100 A/h

2 100 A/h without box

6 10 W solar panel (large 2 pins)

1 20 W Solar panel

3 LW radiometers 32553F3 32555F3 30610F3

2 Skidoo batteries (Liquid missing)

1 12 battery charger

1 Small Eddy w metal 4 4/0 11 4/5 0/0

6 Large pipes + some tower flanges

2 drills (blue + red box) Cord + med

1 drill in black box for poles

+2 chargers

2 Large white cooling boxes for food

2 Large Milwaukee drills + 4 x 28 Volt Batt

3 18 V Lithium 3 Ah for Makita

1 Makita battery charger

2 Hole Lithium for 10 Hz antenna

3 Hole Lithium for antenna + receiver

1 Mountain Hardware tent

2 FEDEX tower wind booms

3 Small Campbell enclosures

2015

SC	65° 33' 27'N,	49°21'27"W	1082m
dn10	69° 30' 07'N,	49° 33' 26'W	1003m
JAR1	69° 29' 38'N,	49° 42' 35'W	897m
NASA4	73° 50' 26.5N	49° 31' 19.9"W	247
NEEM	77° 26' 31.4"N	51° 04' 55.8'W	2461
HUH	78° 31' 40.2"N,	56° 50' 29.1"W	2123
PET	80° 05' 44.9"N,	58° 07' 56.4"W	924
GITS	77° 08' 13.6"N,	61° 02' 31.6"W	1881
THUM-W	78° 01' 06.5"N,	33° 58' 10.3'W	2067
EGP1B	75° 35' 36.3"N,	35° 59' 19.7"W	2686
NASA E	~~73° 50' 29"W~~	~~49° 30' 25"W~~	
CP1	69° 52' 28.5"N,	47° 01' 21"W	1931
nasa-SE	66° 28' 41.1"N,	42° 29' 46.1"W	2338
Saddle	65° 55' 58.6"N	44° 30' 06.1"W	2435
C-Dome	63° 08' 52.6"N,	40° 49' 00.9"W	2901
ye 2	66° 78' 53.6"N	46° 17' 22.8"W	2080

Expedition Permit C15-3

Start of Expedition 4 May 2015

to jrcc@jrcc.gl

Home page for magnetic declination:

www.ngdc.noaa.gov/geomag-web/

Phone Numbers 2015

CPS Ranger 88 163 145 97 37
CPS Mobile 299 52 42 18
" " 299 52 97 84
Medical Asst. (866) 611 - 0377

SC1 + 88 - 162 - 141 - 0785 (Koni)
SC2 + 88 - 163 - 140 - 00 42
SC3 + 88 - 162 - 141 - 0877

Nanna +1 719 238 0119
Jay mob. +1 240 476 - 1280
→ Neem groupoft + 88 167 77 37 834
NEEM traverse 1: + 88 16 234 93 272
15:00 - 16:00; 21:22:00
" 2: + 88 16 929 48 507
NEEM dome: + 88 16 234 93 253
? 37 835

Pilots: +299 ~~52 42 18~~ Kiddy
53 78 90

Koni Sat phone: 88 163 256 072

Password kisedu 79
qifini 25

+41 79 377 06 10 Koni
Kathy 299 52 97 84

Hans Qanaqsi: + 299 97 12 34

~~Summit 88 16 314 59 738~~
(~~Summit old~~ 88 163 164 0730) ✓
Summit + 88 163 146 0730 new

Kim Rowcus 299 524526